

FL250D

No-Clean Solder Paste

Product Description

Kester **FL250D** is a no-clean, air or nitrogen reflowable, solder paste specifically designed for automotive requirements. FL250D is compatible with post-soldering process chemicals, including conformal coatings and potting compounds. FL250D is capable of stencil printing downtimes of up to 90 minutes with an effective first print at 20 mils. FL250D also has the capability of printing up to 200 mm/sec (8in/sec) with squeegees or within an enclosed head.

- Excellent residue characteristics that are completely compatible with conformal coating and potting processes
- High print speeds to 200 mm/sec (8 in/sec)
- Compatible with 0201 technology
- Excellent printing characteristics to 0.4mm (16-mil) pitch with Type 3 powder
- Excellent wetting on a variety of substrates, including OSPs
- Capable of 90 minute break times in printing
- Stencil life: 8+ hours (process dependent)
- Scrap is reduced due to less paste dry out
- Stable tack over 8+ hours
- Classified as ROL0 per J-STD-004
- Compliant to Bellcore GR-78 (uncleaned)
- Compatible with DEK ProFlow™ and MPM RheoPump™ enclosed print head systems

Standard Applications

90% Metal – Stencil Printing
90% Metal – Enclosed Head Printing

Physical Properties

(Data given for Sn63Pb37, 90% metal, -325+500 mesh)

Viscosity (typical): 1600 poise

Malcom viscometer @ 10rpm and 25°C

Initial Tackiness (typical): 42 grams

Tested to J-STD-005, IPC-TM-650, Method 2.4.44

Slump Test: Pass

Tested to J-STD-005, IPC-TM-650, Method 2.4.35

Solder Ball Test: Preferred

Tested to J-STD-005, IPC-TM-650, Method 2.4.43

Wetting Test: Pass

Tested to J-STD-005, IPC-TM-650, Method 2.4.45

Reliability Properties

Copper Mirror Corrosion: Low

Tested to J-STD-004, IPC-TM-650, Method 2.3.32

Corrosion Test: Low

Tested to J-STD-004, IPC-TM-650, Method 2.6.15

Silver Chromate: Pass

Tested to J-STD-004, IPC-TM-650, Method 2.3.33

Chloride and Bromides: None Detected

Tested to J-STD-004, IPC-TM-650, Method 2.3.35

Fluorides by Spot Test: Pass

Tested to J-STD-004, IPC-TM-650, Method 2.3.35.1

SIR, IPC (typical): Pass

Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3

	Blank	FL250D
Day 1	$1.5 \times 10^{10} \Omega$	$5.3 \times 10^9 \Omega$
Day 4	$6.0 \times 10^9 \Omega$	$2.6 \times 10^9 \Omega$
Day 7	$5.5 \times 10^9 \Omega$	$2.9 \times 10^9 \Omega$

Application Notes

Availability:

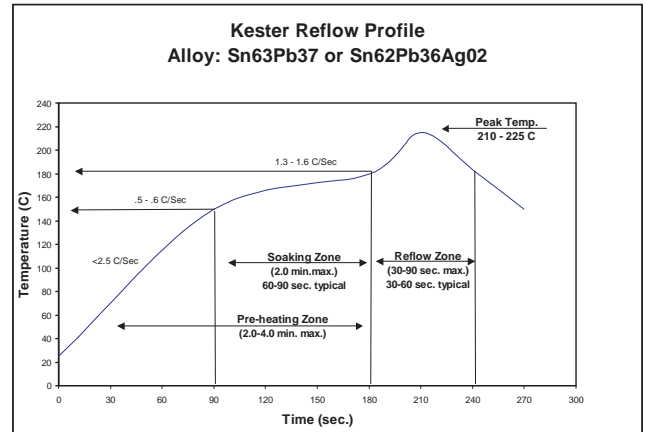
Kester FL250D is available in the Sn63Pb37 and Sn62Pb36Ag02 alloys with Type 3 powder. Type 3 powder mesh is recommended, but different powder particle size distributions are available for standard and fine pitch applications. For specific packaging information see Kester's Solder Paste Packaging Chart for available sizes. The appropriate combination depends on process variables and the specific application.

Printing Parameters:

Squeegee Blade	80 to 90 durometer polyurethane or stainless steel
Squeegee Speed	Capable to a maximum speed of 200 mm/sec (8 in/sec)
Stencil Material	Stainless Steel, Molybdenum, Nickel Plated, Brass
Temperature/Humidity	Optimal ranges are 21-25°C (70-77°F) and 35-65% RH

Recommended Reflow Profile:

The recommended reflow profile for FL250D made with Sn63Pb37 and Sn62Pb36Ag02 alloys is shown here. This profile is simply a guideline. Since FL250D is a highly active solderpaste, it can solder effectively over a wide range of profiles. Your optimal profile may be different from the one shown based on you oven, board and mix of defects. Please contact Kester if you need additional profiling advice.



Cleaning:

FL250D is a no-clean formula. The residues do not need to be removed for typical applications. Although FL250D is designed for no-clean applications, its residues can be easily removed using automated cleaning equipment (in-line or batch) with a variety of readily available cleaning agents. Call Kester Technical Support for details.

Storage, Handling, and Shelf Life:

Refrigeration is the recommended optimum storage condition for solderpaste to maintain consistent viscosity, reflow characteristics and overall performance. FL250D should be stabilized at room temperature prior to printing. FL250D should be kept at standard refrigeration conditions, 0-10°C (32-50°F). Please contact Kester if you require additional advice with regard storage and handling of this material. Shelf life is 4 months from date of manufacture when handled properly and held at 0-10°C (32-50°F).

Health & Safety:

This product, during handling or use, may be hazardous to health or the environment. Read the Material Safety Data Sheet and warning label before using this product.

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